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James M. Smith, Secretary

WEATHER BUREAU

F. W. Reinshofer, Chief

MONTHLY WEATHER REVIEW

FEBRUARY 1944

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CORRECTIONS

Moscow: Wharman Review, May 1942, vol. 71: pages
73 and 72, exact stage at Windsor, Mass., 20.7, May 10,
1942, should be 20.5, May 20, 1942.

MONTHLY WEATHER REVIEW

Editor, EDGAR W. WOOLARD

VOL. 72, No. 2
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FEBRUARY 1944

CLOSED APRIL 5, 1944
ISSUED MAY 5, 1944

METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR FEBRUARY 1944

(Climate and Crop Weather Division, J. B. KINCE, in charge)

AEROLOGICAL OBSERVATIONS

NOTICE.—RAOB tabular data for January 1944 (table 1) are shown hereunder: those for February 1944 will be published in the March REVIEW.—EDITOR

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during January 1944

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Albany, N. Y. (86 m.)				Albuquerque, N. Mex. (1620 m.)				Apalachicola, Fla. (5 m.)				Atlanta, Ga. ² (300 m.)				Big Spring, Tex. (774 m.)				Bismarck, N. Dak. (505 m.)				Boise, Idaho (868 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface.....	31	1,008	-4.9	77	31	840	-0.2	65	31	1,021	11.0	82	31	986	5.8	74	31	931	4.9	69	31	957	-6.0	80	31	922	-3.9	82
500.....	31	957	-3.9	74	31	801	0.1	52	31	962	11.7	50	31	962	6.3	73	31	906	7.9	52	31	900	-3.1	76	31	907	-1.9	72
1,000.....	31	898	-5.5	76	31	753	-1.1	45	31	906	10.2	54	31	906	5.4	69	31	853	6.7	42	31	844	-3.3	70	31	832	-1.8	52
1,500.....	31	842	-6.7	67	31	706	-3.4	45	31	854	8.9	44	31	852	4.6	64	31	802	4.7	36	31	792	-5.0	64	31	800	-2.8	46
2,000.....	31	790	-7.4	56	31	622	-9.0	42	31	803	7.3	38	31	801	3.7	59	31	754	3.2	30	31	743	-7.4	60	31	751	-4.6	50
2,500.....	31	740	-9.2	51	31	546	-15.1	40	31	755	5.7	33	31	753	2.2	55	31	708	0.6	28	31	696	-9.9	58	31	704	-6.9	49
3,000.....	31	694	-11.3	45	31	478	-22.0	34	31	710	3.4	34	31	708	-0.1	54	31	624	-5.1	26	31	611	-15.1	53	31	619	-12.8	51
4,000.....	31	608	-16.1	40	31	416	-29.3	36	31	627	-2.0	32	31	624	-5.7	53	31	550	-11.5	34	31	534	-21.3	53	31	542	-19.1	52
5,000.....	31	532	-22.3	41	31	361	-36.2	30	31	553	-7.7	34	31	549	-11.9	50	31	482	-18.6	35	31	467	-28.5	53	31	473	-26.3	50
6,000.....	31	464	-28.9	44	31	313	-42.8	29	31	485	-14.2	30	31	481	-18.1	48	31	420	-26.2	38	31	405	-34.5	51	31	412	-33.0	50
7,000.....	31	402	-35.3	49	31	271	-49.2	23	31	425	-21.2	44	31	419	-24.7	48	31	365	-34.1	43	31	352	-40.8	20	31	357	-39.2	50
8,000.....	31	348	-42.3	31	229	-55.0	18	20	31	370	-28.1	47	31	365	-32.0	49	31	315	-41.1	9	31	305	-46.4	16	31	307	-45.7	50
9,000.....	31	299	-48.2	20	12	229	-55.0	23	31	321	-35.3	45	31	316	-39.4	51	31	272	-48.0	5	31	261	-52.1	14	31	265	-50.0	50
10,000.....	29	256	-52.4	5	5	229	-55.0	29	23	278	-42.8	23	31	273	-46.1	21	31	233	-54.8	10	31	233	-54.8	7	31	228	-54.5	50
11,000.....	27	220	-52.9	18	20	204	-56.2	20	18	239	-50.0	21	31	235	-52.2	10	31	201	-57.4	18	31	201	-57.4	18	31	201	-57.4	50
12,000.....	26	188	-52.3	10	10	174	-60.2	10	10	204	-56.2	18	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	50
13,000.....	21	161	-52.6	5	5	148	-60.9	5	5	174	-60.2	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	50
14,000.....	15	138	-55.1	5	5	126	-63.8	5	5	148	-60.9	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	50
15,000.....	11	119	-55.6	5	5	126	-63.8	5	5	126	-63.8	5	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	50
16,000.....	7	102	-57.6	5	5	126	-63.8	5	5	126	-63.8	5	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	10	31	172	-58.5	50

Altitude (meters) m. s. l.	Brownsville, Tex. (6 m.)				Buffalo, N. Y. (221 m.)				Caribou, Maine (191 m.)				Charleston, S. C. ³ (14 m.)				Denver, Colo. (1,616 m.)				Detroit, Mich. ⁴ (217 m.)				Dodge City, Kans. (787 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface.....	31	1,019	14.2	85	29	992	-2.0	77	31	991	-10.8	86	27	1,020	8.1	81	31	838	-3.9	62	31	928	-1.5	83	31	928	-1.5	83
500.....	31	962	14.0	71	29	958	-2.7	74	31	953	-9.1	80	27	962	10.3	67	31	804	12.5	60	31	804	12.5	60	31	804	12.5	60
1,000.....	31	906	10.8	60	29	899	-5.0	76	31	893	-9.3	71	27	905	8.0	66	31	750	-2.6	42	31	750	-2.6	42	31	750	-2.6	42
1,500.....	31	854	10.8	51	29	844	-6.2	70	31	837	-10.4	62	27	852	6.3	61	31	704	-5.6	43	31	704	-5.6	43	31	704	-5.6	43
2,000.....	31	804	9.8	34	29	791	-7.6	58	31	784	-11.4	55	27	801	4.3	58	31	619	-12.2	45	31	619	-12.2	45	31	619	-12.2	45
2,500.....	31	756	7.7	26	29	742	-9.2	51	31	735	-12.9	45	27	753	2.5	51	31	542	-18.6	46	31	542	-18.6	46	31	542	-18.6	46
3,000.....	31	712	5.3	23	29	695	-11.5	52	31	688	-15.3	46	27	708	0.3	50	31	474	-25.3	50	31	474	-25.3	50	31	474	-25.3	50
4,000.....	31	629	-0.9	29	28	609	-16.7	49	31	602	-20.5	40	26	624	-4.7	49	31	412	-32.2	48	31	412	-32.2	48	31	412	-32.2	48
5,000.....	31	554	-7.2	28	28	533	-22.7	49	31	525	-26.7	41	26	549	-11.1	49	31	356	-39.6	48	31	356	-39.6	48	31	356	-39.6	48
6,000.....	31	487	-13.8	28	28	464	-29.2	46	31	456	-33.1	49	25	481	-17.6	50	31	308	-46.5	9	31	308	-46.5	9	31	308	-46.5	9
7,000.....	31	426	-20.8	37	26	404	-35.3	41	25	396	-39.1	25	25	421	-24.3	50	31	272	-52.2	16	31	272	-52.2	16	31	272	-52.2	16
8,000.....	31	371	-27.8	43	19	350	-40.7	20	31	342	-45.5	25	23	366	-31.2	46	31	200	-58.3	9	31	200	-58.3	9	31	200	-58.3	9
9,000.....	30	322	-35.0	43	10	306	-45.2	19	20	293	-50.7	23	23	318	-38.5	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
10,000.....	30	279	-42.3	10	10	251	-51.9	17	17	251	-51.9	23	23	274	-45.6	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
11,000.....	25	240	-50.0	10	10	214	-49.6	12	12	214	-49.6	16	16	235	-52.2	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
12,000.....	9	205	-57.0	10	10	183	-50.7	9	9	183	-50.7	9	9	200	-58.3	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
13,000.....	9	205	-57.0	10	10	183	-50.7	9	9	183	-50.7	9	9	200	-58.3	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
14,000.....	9	205	-57.0	10	10	183	-50.7	9	9	183	-50.7	9	9	200	-58.3	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
15,000.....	9	205	-57.0	10	10	183	-50.7	9	9	183	-50.7	9	9	200	-58.3	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7
16,000.....	9	205	-57.0	10	10	183	-50.7	9	9	183	-50.7	9	9	200	-58.3	46	31	171	-59.8	7	31	171	-59.8	7	31	171	-59.8	7

See footnotes at end of table.

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TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during January 1944—Continued

Altitude (meters) m. s. l.	El Paso, Tex. (1,195 m.)				Ely, Nev. ¹ (1,908 m.)				Glasgow, Mont. (648 m.)				Great Falls, Mont. (1,128 m.)				Greensboro, N. C. (273 m.)				Hatteras, N. C. (3 m.)				Huntington, W. Va. (172 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface	31	885	4.3	49	30	811	-9.1	83	31	940	-5.2	73	31	886	0.9	43	31	989	2.2	83	29	1,020	5.8	88	26	1,001	-0.2	83
500									31	900	0.1	60					31	961	4.4	67	29	960	6.1	59	26	961	2.0	70
1,000									31	845	-0.5	47	31	847	1.3	38	31	904	3.4	56	29	904	5.4	54	26	903	0.4	58
1,500	31	854	7.3	38					31	794	-3.4	52	31	795	-2.0	42	31	850	2.0	40	29	850	3.3	49	26	849	-1.2	55
2,000	31	802	5.0	36	30	802	-6.5	81	31	745	-6.5	55	31	746	-5.2	44	31	798	0.6	41	29	799	1.4	40	26	797	-2.8	45
2,500	31	754	2.5	38	30	752	-4.2	72	31	698	-9.3	53	31	700	-8.1	42	31	750	-1.3	40	29	750	-0.6	37	26	747	-4.1	38
3,000	31	709	0.0	35	30	706	-5.5	67	31	613	-15.1	47	31	614	-13.8	38	31	704	-3.5	35	29	705	-2.3	36	26	701	-5.9	34
3,500	31	625	-5.8	32	30	620	-10.9	61	31	536	-21.0	49	30	538	-20.7	36	31	620	-8.6	33	27	621	-7.9	34	26	617	-10.6	33
4,000	31	549	-12.3	30	30	544	-17.5	59	30	468	-28.0	54	30	469	-27.8	38	31	544	-15.0	37	27	545	-14.5	38	26	541	-17.0	35
5,000	31	481	-18.8	29	28	476	-24.0	54	30	406	-35.1	58	30	407	-35.0	30	31	476	-21.7	43	27	477	-21.1	44	26	473	-24.0	44
6,000	31	420	-26.3	32	27	413	-31.7	50	30	350	-43.0	27	27	352	-41.5	30	31	414	-28.8	49	27	416	-27.7	47	26	412	-31.2	51
7,000	30	365	-33.2	37	23	359	-38.6	37	29	302	-49.7	27	21	306	-47.2	30	31	359	-35.5	26	26	361	-34.3	53	25	357	-38.1	51
8,000	26	316	-39.6	37	22	310	-44.6	37	28	259	-54.0	16	26	264	-52.8	30	31	310	-42.3	26	26	312	-41.3	25	25	308	-44.6	51
9,000	18	275	-46.0	20	20	268	-50.7	17	27	222	-56.3	23	26	267	-48.9	26	26	267	-48.9	26	26	268	-48.4	24	24	265	-51.0	51
10,000	5	236	-53.0	15	17	230	-56.2	14	22	196	-57.5	18	23	229	-54.6	26	26	310	-42.3	26	26	230	-54.3	17	17	227	-55.9	51
11,000					15	196	-57.5	13	18	168	-57.6	23	26	196	-58.1	23	23	267	-48.9	26	26	197	-57.5	11	11	194	-57.0	51
12,000					14	168	-57.6	13	7	143	-58.4	23	23	167	-58.4	23	23	168	-58.4	23	23	168	-57.8	5	5	166	-55.4	51
13,000					13	143	-58.4	9		122	-60.7	22	22	142	-60.0	22	22	142	-60.0	22	22	143	-59.6					
14,000					9	122	-60.7	6		105	-63.2			121	-62.1	19	19	121	-62.1	19	19	121	-61.9					
15,000					6	105	-63.2							103	-64.0	14	14	104	-64.7	10	10	88	-65.2					
16,000																5	5	75	-65.9	5	5	75	-65.9					
17,000																												
18,000																												

Altitude (meters) m. s. l.	International Falls, Minn. (343 m.)				Joliet, Ill. (178 m.)				Lake Charles, La. (5 m.)				Lakehurst, N. J. ¹ (39 m.)				Little Rock, Ark (79 m.)				Louisville, Ky. (166 m.)				Mazatlan, Mex. (80 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface	30	974	-8.6	82	31	999	-2.4	81	31	1021	9.6	86	23	1,014	-1.2	75	31	1,012	5.5	77	30	1,002	2.2	72	25	1,008	20.4	78
500	30	954	-7.9	77	31	959	-0.3	68	31	962	10.5	71	23	956	-1.9	68	31	962	6.4	56	30	962	2.5	64	25	960	20.9	41
1,000	30	896	-7.3	55	31	901	-1.7	61	31	906	9.0	62	22	898	-3.1	61	31	905	4.8	56	30	904	0.7	59	25	906	19.1	34
1,500	30	840	-7.1	59	31	846	-2.0	48	31	853	7.8	59	22	843	-4.0	56	31	852	3.6	54	30	850	0.2	49	25	854	16.1	30
2,000	30	787	-9.6	52	31	794	-3.7	43	31	802	6.3	49	22	791	-5.8	55	31	800	2.2	48	30	797	-1.0	42	25	805	12.5	28
2,500	30	738	-9.6	47	31	745	-5.6	42	31	755	4.2	43	22	742	-7.4	45	31	752	0.5	45	30	749	-2.7	36	25	758	9.9	28
3,000	30	692	-12.2	48	31	699	-7.5	36	31	710	1.7	39	21	696	-9.7	47	31	706	-1.3	38	30	703	-4.3	32	25	714	6.8	28
4,000	29	606	-17.6	47	31	614	-12.8	25	31	626	-4.1	31	21	610	-14.5	50	31	622	-6.6	36	28	618	-9.2	31	25	631	1.0	26
5,000	29	529	-24.1	38	31	538	-18.9	29	31	550	-10.5	31	20	535	-20.5	54	31	547	-13.1	38	28	543	-15.9	34	23	556	-5.7	23
6,000	29	461	-30.5	30	30	469	-25.3	32	31	482	-16.8	37	19	466	-27.4	57	31	479	-20.1	45	27	475	-22.7	44	23	489	-12.4	27
7,000	27	400	-37.4	29	29	408	-32.5	26	30	422	-23.5	42	18	404	-34.4	31	31	418	-27.3	45	25	414	-29.3	51	22	428	-19.2	40
8,000	21	346	-43.5	23	23	354	-39.2	23	30	367	-30.0	48	16	350	-41.3	30	31	362	-34.3	52	23	360	-36.2	20	373	-26.9	47	
9,000	11	297	-48.6	17	17	306	-45.7	17	30	318	-37.1	52	16	302	-47.6	29	29	313	-41.6	17	15	312	-42.2	20	324	-34.1	47	
10,000	10	254	-53.2	8	8	267	-51.0	8	29	275	-43.8	15	15	258	-52.3	18	18	270	-47.8	5	15	268	-47.3	18	280	-42.3	47	
11,000	8	217	-53.2	5	5	231	-56.2	5	12	238	-50.5	12	12	222	-55.2	14	14	229	-56.1		18	241	-50.0	18	241	-50.0		
12,000	6	185	-50.3						7	173	-55.3	9	9	162	-57.0	18	18	167	-58.0		18	206	-56.4	18	206	-56.4		
13,000									5	149	-58.6	6	6	118	-58.0	18	18	138	-57.7		18	176	-61.1	18	176	-61.1		
14,000																					18	149	-63.7	18	149	-63.7		
15,000																					18	127	-66.6	18	127	-66.6		
16,000																					14	108	-68.5	14	108	-68.5		
17,000																					10	91	-69.6	10	91	-69.6		

Altitude (meters) m. s. l.	Medford, Oreg. ¹ (409 m.)				Miami, Fla. ¹ (4 m.)				Nashville, Tenn. (180 m.)				Norfolk, Va. ¹ (4 m.)				Oakland, Calif. (2 m.)				Ogden, Utah (1,355 m.)				Oklahoma City, Okla. (391 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu

TABLE 1.—Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during January 1944—Continued

Altitude (meters) m. s. l.	Omaha, Nebr. (301 m.)				Phoenix, Ariz. (339 m.)				Pittsburgh, Pa. (392 m.)				Portland, Maine ¹ (20 m.)				Rapid City, S. Dak. (981 m.)				St. Louis, Mo. (171 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface	30	985	-0.5	72	31	979	8.7	58	31	973	0.1	76	31	1,015	-6.0	83	31	904	-3.7	72	31	1,001	1.4	75
500	30	961	-0.2	66	31	961	12.8	39	31	960	0.3	74	31	955	-5.0	80	31	961	-3.1	69	31	961	2.2	60
1,000	30	903	-0.2	54	31	905	11.0	33	31	902	-1.6	69	31	896	-6.2	77	31	902	-3.1	69	31	903	1.0	53
1,500	30	848	-0.8	44	31	852	7.8	35	31	846	-3.2	64	31	840	-7.1	70	31	848	-0.1	47	31	849	0.6	44
2,000	30	796	-2.3	38	31	801	4.5	38	31	794	-5.1	61	31	788	-8.4	66	31	796	-2.7	46	31	797	-1.2	41
2,500	30	747	-4.1	33	31	753	1.5	37	31	745	-6.6	53	31	738	-9.9	63	31	747	-5.5	45	31	748	-2.8	37
3,000	29	701	-6.5	33	31	708	-1.0	34	31	699	-8.4	42	31	692	-11.7	60	31	700	-8.0	43	31	702	-4.6	28
4,000	29	616	-12.3	40	31	624	-6.7	33	31	614	-13.1	38	30	606	-17.4	57	31	615	-13.8	41	28	618	-9.6	26
5,000	29	540	-18.5	40	31	548	-13.2	31	31	538	-18.6	39	30	530	-23.6	54	31	539	-20.3	42	28	542	-15.8	35
6,000	29	472	-25.7	41	31	480	-20.3	34	31	469	-25.5	43	29	461	-30.2	53	31	470	-27.1	47	24	475	-21.9	43
7,000	29	410	-33.0	44	31	418	-27.5	37	31	408	-32.3	44	29	400	-36.8	49	31	408	-34.1	51	23	414	-29.2	45
8,000	28	354	-40.2	---	31	363	-34.8	---	31	353	-39.3	---	21	345	-42.9	---	31	353	-41.7	---	23	359	-36.6	---
9,000	24	306	-46.5	---	31	314	-42.1	---	28	305	-45.1	---	15	297	-48.7	---	26	305	-48.4	---	18	310	-43.2	---
10,000	12	264	-51.9	---	31	270	-49.2	---	30	264	-51.2	---	10	254	-50.8	---	18	262	-54.6	---	10	269	-48.9	---
11,000	---	---	---	---	31	232	-55.0	---	8	230	-56.3	---	7	218	-51.1	---	16	224	-58.4	---	5	233	-55.1	---
12,000	---	---	---	---	30	198	-57.7	---	---	---	---	---	6	186	-50.6	---	9	191	-59.5	---	---	---	---	---
13,000	---	---	---	---	29	169	-58.1	---	---	---	---	---	---	---	---	---	8	163	-59.4	---	---	---	---	---
14,000	---	---	---	---	26	144	-59.8	---	---	---	---	---	---	---	---	---	6	140	-60.3	---	---	---	---	---
15,000	---	---	---	---	25	123	-61.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16,000	---	---	---	---	22	104	-63.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
17,000	---	---	---	---	10	89	-64.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Altitude (meters) m. s. l.	St. Paul, Minn. (225 m.)				San Antonio, Tex. (242 m.)				San Diego, Calif. ¹ (19 m.)				San Juan, P. R. (15 m.)				Santa Maria, Calif. (73 m.)				Sault Ste Marie, Mich. ² (221 m.)				Seattle, Wash. ¹ (22 m.)				
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	
Surface	30	992	-3.6	78	29	992	9.0	83	26	1,016	13.6	74	28	1,016	23.5	83	29	1,011	10.3	78	30	989	-4.1	88	15	1,014	5.9	74	
500	30	958	-3.5	74	29	962	10.6	72	25	960	12.2	60	28	961	20.4	81	29	961	11.2	57	30	955	-4.9	87	15	957	5.0	61	
1,000	30	899	-3.5	60	29	906	8.7	71	25	904	9.6	59	28	907	17.2	80	29	905	8.9	51	30	896	-6.4	83	15	900	2.1	57	
1,500	30	844	-3.8	53	29	853	7.9	62	25	851	6.9	57	28	856	14.3	74	29	852	6.2	48	30	840	-7.7	78	15	846	-1.2	58	
2,000	30	792	-5.7	50	29	802	6.4	46	25	801	4.4	52	28	806	11.9	62	29	800	3.7	40	30	788	-9.2	72	15	794	-3.6	57	
2,500	30	742	-7.6	44	29	755	4.7	35	25	753	2.5	40	28	750	9.8	42	29	752	1.5	37	30	738	-11.0	67	14	746	-6.2	64	
3,000	30	696	-9.7	40	29	710	2.2	35	24	708	0.1	30	28	714	7.6	28	29	707	-0.8	33	30	691	-13.3	64	14	699	-9.1	53	
4,000	30	610	-15.1	40	28	626	-3.5	32	23	624	-6.2	34	27	633	3.5	---	27	623	-6.7	29	29	605	-18.8	58	13	614	-15.3	62	
5,000	30	535	-21.7	39	28	551	-9.9	28	20	549	-12.6	47	26	558	-12.4	47	27	548	-12.8	33	27	529	-25.0	54	12	537	-21.7	---	
6,000	29	466	-28.2	40	27	484	-16.3	31	19	480	-19.8	48	26	491	-18.7	48	27	480	-20.1	35	27	460	-31.9	51	11	468	-28.4	---	
7,000	27	404	-35.4	---	27	423	-23.4	39	17	420	-26.7	---	26	431	-15.6	---	27	418	-17.4	38	26	398	-38.7	45	10	408	-33.9	---	
8,000	25	350	-42.6	---	26	368	-30.2	48	---	---	---	---	26	377	-23.1	---	27	363	-34.9	41	20	346	-43.2	---	7	352	-42.1	---	
9,000	18	304	-47.9	---	26	319	-37.4	---	---	---	---	---	26	328	-30.4	---	26	314	-42.3	---	11	300	-48.1	---	3	302	-48.7	---	
10,000	8	263	-51.4	---	25	276	-44.5	---	---	---	---	---	24	284	-37.7	---	26	270	-49.3	---	---	259	-54.6	---	---	259	-55.1	---	
11,000	---	---	---	---	19	237	-52.3	---	---	---	---	---	23	245	-45.1	---	25	231	-55.0	---	---	---	---	---	---	7	222	-59.0	---
12,000	---	---	---	---	---	---	---	---	---	---	---	---	22	211	-52.2	---	20	198	-57.9	---	---	---	---	---	---	5	189	-60.5	---
13,000	---	---	---	---	---	---	---	---	---	---	---	---	22	180	-58.7	---	20	160	-58.2	---	---	---	---	---	---	---	160	-59.6	---
14,000	---	---	---	---	---	---	---	---	---	---	---	---	18	153	-64.2	---	18	144	-59.8	---	---	---	---	---	---	---	---	---	---
15,000	---	---	---	---	---	---	---	---	---	---	---	---	16	130	-68.4	---	18	123	-62.0	---	---	---	---	---	---	---	---	---	---
16,000	---	---	---	---	---	---	---	---	---	---	---	---	14	111	-71.4	---	14	105	-63.6	---	---	---	---	---	---	---	---	---	---
17,000	---	---	---	---	---	---	---	---	---	---	---	---	11	93	-74.6	---	10	89	-64.8	---	---	---	---	---	---	---	---	---	---
18,000	---	---	---	---	---	---	---	---	---	---	---	---	7	78	-73.5	---	7	75	-64.7	---	---	---	---	---	---	---	---	---	---

Altitude (meters) m. s. l.	Spokane, Wash. (598 m.)				Swan Island, West Indies (10 m.)				Tacubaya, Mex. (2,306 m.)				Tampa, Fla. (3 m.)				Tapachula, Mex. (115 m.)				Tatoosh Island, Wash. (31 m.)				Toledo, Ohio (191 m.)			
	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity	Number of ob- servations	Pressure	Temperature	Relative hu- midity
Surface	31	949	-1.3	87	29	1,016	24.2	79	31	775	13.4	44	31	1,021	13.4	83	31	999	24.0	80	31	1,012	6.8	80	28	997	-1.6	81
500	---	---	---	---	29	961	20.6	82	---	---	---	---	31	963	13.7	66	31	956	23.2	68	31	955	5.3	69	28	959	-0.8	72
1,000	31	903	-0.1	72	29	907	17.1	81	---	---	---	---	31	907	11.9	58	31	903	20.9	63	31	898	2.1	72	28	901	-3.3	71

TABLE 2.—Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during February 1944. Directions given in degrees from North ($N=360^\circ$, $E=90^\circ$, $S=180^\circ$, $W=270^\circ$). Velocities in meters per second.

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (402 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San An- tonio, Tex. (240 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (12 m.)			Spokane, Wash. (603 m.)			Washing- ton, D. C. (24 m.)				
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity					
Surface.....	28	274	1.4	24	235	0.8	28	323	1.0	28	189	1.3	24	205	0.9	26	260	1.9	29	241	1.3	24	29	1.1	29	237	2.7	24	271	3.5	26	2	0.4	27	179	0.8	24	316	1.9		
500.....	28	310	1.6	24	225	0.6	28	274	1.7	28	192	1.7	24	206	0.9	26	260	3.0	29	276	2.4	24	55	0.9	29	227	2.6	24	283	4.4	26	111	0.2	27	174	1.3	24	297	2.3		
1,000.....	25	343	2.6	24	232	1.2	27	270	3.6	28	192	2.6	24	206	0.9	24	262	4.9	25	286	3.8	22	229	0.8	24	199	2.3	21	301	6.8	24	186	1.8	27	174	1.3	23	289	6.7		
1,500.....	23	353	3.6	20	231	5.2	25	281	6.2	28	191	3.7	24	258	2.2	24	276	8.2	23	297	7.6	18	259	3.2	21	195	1.2	17	297	7.0	19	172	2.6	26	219	1.2	23	284	10.5		
2,000.....	20	351	5.7	17	249	9.6	22	288	9.0	27	203	4.0	24	284	5.9	24	277	12.1	19	296	9.2	16	267	5.4	18	318	2.3	12	304	8.8	15	215	1.4	23	250	2.5	19	288	13.2		
2,500.....	20	348	8.5	17	252	12.0	21	289	11.3	26	217	4.7	24	291	8.0	24	280	14.1	16	292	12.1	14	266	9.4	18	312	4.5	10	303	10.5	11	202	1.7	17	254	3.8	17	290	18.1		
3,000.....	18	349	10.4	16	254	14.3	20	286	12.7	23	228	5.8	23	287	9.9	21	275	17.3	13	306	14.3	13	263	14.0	18	305	6.8	10	310	13.8	---	---	---	---	---	---	---	---	---		
4,000.....	16	353	15.5	15	264	17.8	19	280	16.6	20	254	10.6	18	284	15.5	16	278	20.4	10	308	17.2	13	264	16.5	15	288	8.7	---	---	---	---	---	---	---	---	---	---	---	---		
5,000.....	14	339	19.3	14	273	21.2	18	272	20.1	17	270	15.0	15	278	15.7	10	275	27.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6,000.....	12	338	21.9	12	265	24.5	15	277	24.9	13	258	16.7	15	277	18.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

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TABLE 2.—Free-air resultant winds based on pilot-balloon observations during January 1944. Directions given in degrees. Velocities in meters per second

Altitude (meters) m. s. l.	El Paso, Tex. (1,196 m.)			Greensboro, N. C. (271 m.)			Altitude (meters) m. s. l.	El Paso, Tex. (1,196 m.)			Greensboro, N. C. (271 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity		Observations	Direction	Velocity	Observations	Direction	Velocity
Surface.....	31	272	1.7	27	280	2.1	2,500.....	29	263	4.3	24	283	11.0
500.....	---	---	---	27	284	3.1	3,000.....	27	272	6.0	21	278	12.3
1,000.....	---	---	---	25	270	4.7	4,000.....	22	270	9.7	20	273	17.1
1,500.....	31	272	1.9	25	284	6.2	5,000.....	21	266	10.8	16	278	18.8
2,000.....	29	271	3.6	25	294	8.6	6,000.....	19	264	13.2	11	284	20.9

TABLE 3.—Maximum free-air wind velocities, (m. p. s.). For different sections of the United States based on pilot-balloon observations during February 1944

Section	Surface to 2,500 meters (m. s. l.)					Above 2,500 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum ve- locity	Dirrec- tion	Altitude (m.) m. s. l.	Date	Station	Maximum ve- locity	Dirrec- tion	Altitude (m.) m. s. l.	Date	Station	Maximum ve- locity	Dirrec- tion	Altitude (m.) m. s. l.	Date	Station
Northeast ¹	41.6	NW	2,500	24	Harrisburg, Pa.	54.4	WNW	5,000	10	Caribou, Maine	76.0	WNW	7,940	19	Portland, Maine.
East-Central ²	44.5	W	2,260	15	Norfolk, Va.	50.2	NW	4,960	1	Norfolk, Va.	76.8	W	10,759	9	Nashville, Tenn.
Southeast ³	38.0	WSW	2,189	17	Atlanta, Ga.	50.6	WNW	3,020	6	Birmingham, Ala.	53.2	WNW	11,611	25	Jacksonville, Fla.
North-central ⁴	46.0	SW	1,018	4	Milwaukee, Wis.	49.2	WNW	4,092	9	Marquette, Mich.	62.0	WNW	6,400	24	Alpena, Mich.
Central ⁵	51.3	W	1,168	5	Joliet, Ill.	49.0	W	4,856	5	St. Louis, Mo.	68.0	W	6,603	20	Goodland, Kans.
South-Central ⁶	42.0	WSW	2,092	21	Amarillo, Tex.	46.8	NW	4,976	14	Tulsa, Okla.	85.5	WSW	11,781	2	Big Spring, Tex.
Northwest ⁷	38.8	NW	2,500	6	Glasgow, Mont.	45.8	W	5,000	7	Great Falls, Mont.	68.0	W	6,388	7	Great Falls, Mont.
West-Central ⁸	39.5	WNW	2,489	4	Cheyenne, Wyo.	66.0	NW	4,784	14	Sacramento, Calif.	62.0	W	8,897	22	Denver, Colo.
Southwest ⁹	34.8	WNW	1,563	9	Las Vegas, Nev.	64.3	W	4,498	9	El Paso, Tex.	75.3	SW	9,383	26	El Paso, Tex.

¹ Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.

² Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.

³ South Carolina, Georgia, Florida, and Alabama.

⁴ Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.

⁵ Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.

⁶ Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.

⁷ Montana, Idaho, Washington, and Oregon.

⁸ Wyoming, Colorado, Utah, northern Nevada, and northern California.

⁹ Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS

By C. R. JORDAN

PRECIPITATION during February was generally above normal from the Potomac, Ohio, and lower Missouri Valleys southward with the exception of the Florida Peninsula, and generally deficient in the northern part of the country. Monthly totals were 2 to 3 times the normal in the far Southwest including southern California.

Snow depths increased during February in New England and in the higher elevations of the West. Reductions occurred in the Lakes Region and in Pennsylvania. In the Northeast, depths at the end of February ranged from bare ground in southeastern New England to over 3 feet in extreme northwestern Maine and from much bare ground in southern and western New York to over 5 feet in the Adirondacks. There were only a few inches of snow in the mountains of west-central Pennsylvania. Some of the heavier amounts in the far West were 85 inches at Cumbres, Colo.; 63 inches at Silver Lake, Utah; 121 inches at Paradise Inn, Wash.; and 80 inches at Soda Springs, Calif.

Stream flow during February continued generally subnormal throughout the Western States but increased considerably in the Southeast and to a lesser extent in the Central and East-Central States. Floods occurred in the headwaters of the Cumberland River Basin where drought conditions existed during January, bankfull to medium flood stages were reached in the streams of North Carolina, and light flooding was reported at scattered points from the South Atlantic coast as far west as Texas and Oklahoma and northward to the Ohio River. Light flooding also occurred at a few places in Michigan, Minnesota, and Iowa, resulting for the most part from melted snow and ice.

St. Lawrence Drainage.—Mild weather near the end of February melted a considerable snow cover in central and southern Michigan and the accumulated waters produced substantial rises in the streams. The Red Cedar River reached stages slightly above bankfull at Williamston and East Lansing and near bankfull at several other points. Only limited areas of lowlands were submerged and no damage of consequence was reported.

Atlantic Slope and East Gulf of Mexico Drainage.—Beginning near the middle of February and continuing into March, moderate to heavy precipitation fell over the Southeastern States from the Ohio River southward to Florida. Storms were frequent and drought conditions that persisted in this area since last fall were considerably relieved. Six pronounced crest stages were recorded on the Chattahoochee River near Roswell, Ga., between February 9 and the end of the month, reflecting precipitation from 10 separate storms. The extreme dry conditions that have been prevalent in the area for several months produced a large deficit of soil moisture and the soil was capable of retaining a great amount of water. This, in addition to the fact that most streams were at very low stages at the beginning of the stormy period, prevented serious flooding. Bankfull to moderate flood stages were reached on many streams as shown by the table at the end of this report. Some streams remained above flood stage at the end of the month and will be discussed further in a later report. No estimate of the damage caused by the floods in this area has been received but it was undoubtedly small.

Upper Mississippi Basin.—Moderate rains over the Rock River Basin on February 26, augmented by the

spring breakup and water from melting snow, caused some light flooding on the lower Rock River. No damage resulted from this overflow.

Mild temperatures beginning on the 21st and extending to the end of the month caused sufficient snow-melt to produce rapid rises in the Root, Zumbro, Trempealeau, and lower Black Rivers near the end of February. Bank-full stage was reached at Theilman, Minn., on the Zumbro River on the 26th as a result of an ice gorge that formed at the mouth of the stream. Local flooding was reported on Wilson Creek at Menomonie, Wis., on the 26th. No damage was reported.

The Mississippi River exceeded flood stage slightly at Louisiana, Mo., several times during the month. The stages were produced by the operations of Dam No. 24 and no damage resulted.

Missouri Basin.—Rapid rises occurred in the Big Sioux and Floyd Rivers in Iowa beginning about February 26 and considerable overflow resulted. Damage was confined mostly to roads and fences and has been estimated at approximately \$1,000.

Ohio Basin.—Moderately heavy rainfall over West Virginia on February 22 caused rapid rises in the headwaters of the Monongahela River Basin and in the Little Kanawha River. Bank-full stages were just about reached at most stations and there was no serious overflow. Heaviest loss was in the vicinity of Dailey, W. Va., where damage to stacks of hay, highways and bridges, and water standing on prepared farm lands is estimated at \$3,750. The Little Kanawha River at Glenville, W. Va., rose 23.5 feet in less than 24 hours on February 22-23. The crest was 3 feet above flood stage at Glenville but no damage was reported.

Heavy rains over the headwaters of the Cumberland River Basin on the 17th and 18th caused severe flooding in the headwaters of the Cumberland. Two homes were destroyed and many families were forced to seek higher grounds. Flood stage was not reached in the lower river but later rains produced a second rise in the river beginning at the end of the month and continuing into March which will be discussed in the March REVIEW. Damage figures have not yet been compiled. The Tennessee River was also above flood stage at Florence, Ala., from February 26 to March 5.

Arkansas Basin.—The Poteau and Petit Jean Rivers were slightly above flood stage during the month at Poteau, Okla., and Danville, Ark., respectively. Only light flooding occurred and no damage was reported.

Red Basin.—The Ouachita River exceeded flood stage at Camden and Arkadelphia, Ark. Losses due to the suspension of business were estimated at \$500. Minor overflow also occurred at Naples, Tex., on the Sulphur River but no damage resulted.

West Gulf of Mexico Drainage.—The Trinity River at Liberty, Tex., was above flood stage from February 1-4 and from 16-20. Losses caused by both of these floods were estimated at \$1,000 for livestock and \$1,500 for suspension of business. Most of the losses are believed to have occurred during the first flood period.

The Elm Fork, East Fork, Trinity, and Sabine Rivers went out of banks at the end of February. A report of these overflows will be included in the March report.

Pacific Slope Drainage.—Heavy precipitation, averaging from 6 to 7 inches over the Los Angeles metropolitan area to 13 to 17 inches or more in the mountain areas of southern California, began on February 21. Precipitation was in the form of snow at the higher elevations.

Flood peaks from the storm were not excessive because of moderate antecedent precipitation and the impounding of water at higher elevations by a heavy snow cover. Flooding was mostly of a local nature. The situation in Los Angeles was aggravated by the delay in the repair of power lines to private homes resulting from a strike. The Weather Bureau airport station at Burbank, Calif. gives the following summary of the storm damages:

Flood stages were reported in this district on February 22, 1944. The main part of the storm was in the San Fernando Valley and damage was done around Canoga Park. The water came up around houses and high school buildings, doing considerable damage. Some streets were washed out and some areas flooded. Portions of a railroad near Sepulveda had to be repaired and one man got caught in his car parked in a wash and was drowned.

In the upper Los Angeles River drainage area there was a local cloudburst on the morning of February 22, 1944, with precipitation of 0.70 inch an hour at Malibu. It was a thunderstorm variety and seemed to have peak loads within short periods of time, rather than continuous heavy rains.

In the Tujunga area around Hansen dam, two cars were destroyed and several people were marooned in the mountains by snow and floods.

FLOOD-STAGE REPORT FOR FEBRUARY 1944

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest ¹	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
Lake Michigan					
Red Cedar:	<i>Feet</i>			<i>Feet</i>	
Williamston, Mich.....	7	27	27	7.5	27
East Lansing, Mich.....	8	27	28	9.0	27
ATLANTIC SLOPE DRAINAGE					
James: Columbia, Va.....	10	{	20 25	20 25	10.0 10.2
Roanoke:					
Weldon, N. C.....	31	19	21	34.7	20
Williamston, N. C.....	10	20	(¹)	11.3	27
Neuse:					
Neuse, N. C.....	14	18	21	16.2	20
Smithfield, N. C.....	13	15	23	15.8	21-22
Goldsboro, N. C.....	14	16	28	16.8	24
Kinston, N. C.....	14	20	(¹)	15.1	28
Cape Fear: Lock No. 2, Elizabeth-					
town, N. C.....	20	11	23	27.0	20
Savannah: Butler Creek, Ga.....	21	{	16 18	16 19	21.1 22.1
Ogeechee: Dover, Ga.....	7	26	(¹)		
EAST GULF OF MEXICO DRAINAGE					
Black Warrior:					
Lock No. 10, Tuscaloosa, Ala.....	47	28	(¹)		
Lock No. 7, Eutaw, Ala.....	35	{	21 26	22	35.5
Tombigbee:					
Gainesville, Ala.....	26	28	(¹)		
Lock No. 4, Demopolis, Ala.....	39	23	(¹)		
Lock No. 3, Ala.....	33	19	(¹)		
Lock No. 2, Ala.....	46	24	(¹)		
Lock No. 1, Ala.....	31	24	(¹)		
Chickasawhay: Shubuta, Miss.....	30	29	(¹)		
Pearl:					
Edinburg, Miss.....	20	27	(¹)		
Jackson, Miss.....	18	20	(¹)		
Pearl River, La.....	12	24	(¹)		

FLOOD-STAGE REPORT FOR FEBRUARY 1944—Con.

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest ¹	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Rock: Moline, Ill.....	10	27	(²)	10.9	Mar. 1-2
Zumbro: Theilman, Minn.....	35	26	27	36.0	26
		1	6	12.1	4
Mississippi: Louisiana, Mo.....	12	8	10	12.0	8-10
		12	(²)	12.3	28
Missouri Basin					
Big Sioux: Akron, Iowa.....	12	27	Mar. 2	18.3	28-29
Floyd: James, Iowa.....	14	25	29	17.6	27
Ohio Basin					
Middle Fork: Midvale, W. Va.....	11	22	23	12.0	22
Buckhannon: Hall, W. Va.....	10	23	23	10.7	23
Tygart:					
Dailey, W. Va.....	11	22	23	13.85	23
Elkins, W. Va.....	14	23	23	14.3	23
West Fork:					
Weston, W. Va.....	15	22	23	16.5	23
Clarksburg, W. Va.....	5	22	23	6.6	23
Monongahela: Lock No. 6, Pa.....	19.5	23	23	25.7	23
Little Kanawha:					
Glenville, W. Va.....	23	23	23	26.0	23
Creston, W. Va.....	20	23	23	20.65	23
Cumberland:					
Williamsburg, Ky.....	19	18	21	23.0	19
		29	(²)		
Celina, Tenn.....	28	19	24	38.4	21
		29	(²)		
Clarksville, Tenn.....	46	29	(²)		
Lock A, Neptune, Tenn.....	40	29	(²)		
New River, Tenn.....	18	18	18	19.6	18
		29	(²)		
Lock F, Eddyville, Ky.....	50	28	(²)		
Tennessee: Florence, Ala.....	18	26	Mar. 5	21.2	29, Mar. 2
Arkansas Basin					
Poteau: Poteau, Okla.....	21	19	20	24.5	19
		29	Mar. 3	28.3	Mar. 1
		10	12	21.6	11
Petit Jean: Danville, Ark.....	20	17	21	23.2	19
		29	(²)		
Red Basin					
Ouachita:					
Arkadelphia, Ark.....	17	18	19	17.8	19
		29	(²)		
Camden, Ark.....	26	23	23	26.1	23
Sulphur:					
Hagansport, Tex.....	38	9	10	38.3	9
		18	18	38.0	18
		28	(²)		
Naples, Tex.....	22	21	24	22.6	23
Lower Mississippi Basin					
Wolf: Rossville, Tenn.....	10	10	10	10.1	10
WEST GULF OF MEXICO DRAINAGE					
Sabine: Logansport, La.....	25	26	(²)		
East Fork: Rockwall, Tex.....	10	28	(²)	14.0	29
Trinity:					
Dallas, Tex.....	28	28	(²)		
Trinidad, Tex.....	28	27	27	28.3	27
		1	4	25.0	2
Liberty, Tex.....	24	16	20	24.6	18-19

¹ Provisional, subject to correction.² Continued at end of month.

CLIMATOLOGICAL DATA

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

[For description of tables and charts, see REVIEW January 1943, p. 15]

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Section	Temperature						Precipitation					
	Section average	Departure from the normal	Monthly extremes				Section average	Departure from the normal	Greatest monthly		Least monthly	
			Station	Highest	Date	Station	Lowest	Date	Station	Amount	Station	Amount
Alabama	55.7	+6.8	Geneva	86	27	Valley Head	10	13	Scottsboro	12.22	Robertsdale	1.46
Arizona	43.0	-2.9	2 stations	82	15	Fort Valley	-7	11	Ashdale R. S.	7.84	Safford	1.14
Arkansas	48.2	+1.5	Morrilton	87	24	Lead Hill	4	15	Dermott	13.78	Fayetteville Expt.	4.23
California	44.9	-2.0	Mecca	91	2	Bridgeport (near)	-27	24	Lake Arrowhead	19.92	Calexico	1.16
Colorado	27.0	-2	Holly	73	24	Taylor Park	-30	19	Cumbres	6.20	Squirrel Creek	.00
Florida	65.7	+5.2	Stuart	93	15	De Funiak Springs	24	13	Compass Lake	6.97	9 stations	.00
Georgia	54.5	+5.9	Waycross	87	27	Blairsville	4	13	Dahlonega	13.29	Abbeville	2.45
Idaho	28.3	+3	Lewiston	60	7	Landmark	-34	20	Island Park Dam	4.09	Buhl	.20
Illinois	33.5	+3.7	New Burnside	75	24	Marengo	-21	19	Flora	4.95	Chicago Heights	1.15
Indiana	34.6	+4.0	Seymour	76	26	2 stations	-18	13	Moore Hill	4.96	Waterloo	.86
Iowa	26.7	+4.2	Fairfield	68	25	Hawarden	-30	12	Mount Pleasant	2.42	Creston	.41
Kansas	26.3	+3.1	Sedan	80	25	Centralla	-20	12	Fort Scott	3.88	Johnson	.23
Kentucky	42.4	+5.2	2 stations	78	26	Farmers	-2	13	Stearns	8.46	Cynthiana	2.64
Louisiana	59.9	+6.1	Robeline	90	6	3 stations	22	12	Paradis	11.24	Hackberry	1.81
Maryland-Delaware	36.5	+3.2	2 stations	72	24	2 stations	0	13	Snow Hill, Md.	5.10	Chesapeake, Md.	1.15
Michigan	23.7	+3.4	Monroe	70	26	Kenton	-23	16	Charlotte	3.19	Curran	.60
Minnesota	13.4	+2.8	Fairmont	53	4	Big Falls	-36	18	Canby	2.36	3 stations	.01
Mississippi	55.4	+6.0	3 stations	82	14	Hernando	12	13	Scott	11.85	Fruitland Park	1.79
Missouri	37.9	+4.7	Anderson	82	24	Grant City	-21	12	Deering	8.59	Grant City	.75
Montana	23.6	+1.4	Meistone	64	6	Outlook	-37	17	Kings Hill	3.54	Opheim	.17
Nebraska	27.1	+1.8	Beatrice	75	25	Ewing	-33	12	Mumper	2.26	Burwell	.20
Nevada	32.4	-1.6	2 stations	76	16	Seventy-one Ranch	-20	11	Marlette Lake	8.03	Rattlesnake	.03
New England	22.3	-4	Norwalk, Conn.	59	24	Lake Frontiere, Maine	-36	9	Machias, Maine	5.24	Bethlehem, N. H.	1.13
New Jersey	32.3	+1.7	4 stations	65	24	Runyon	-7	14	Clayton	4.49	Layton	1.48
New Mexico	36.7	-5	Obar	79	28	Eagle Nest	-23	19	Chama	2.24	4 stations	.00
New York	22.5	.0	2 stations	61	24	Stillwater Reservoir	-38	19	Whiteface Mountain	5.15	Burdett	.56
North Carolina	45.6	+2.9	Shelby	81	27	Mount Mitchell	-10	12	Andrews	14.59	Jefferson	2.67
North Dakota	11.2	+1.4	Medora	50	6	Golva	-43	11	New England	.77	2 stations	.00
Ohio	33.2	+3.8	Ironton	78	26	Bellefontaine	-17	13	Kings Mills	4.47	Toledo Airport	1.22
Oklahoma	44.9	+3.8	Tipton	84	25	Jay	4	12	Bear Mountain Tower	9.42	Kenton	.23
Oregon	34.8	-5	3 stations	64	16	Seneca	-13	20	Tillamook	14.88	Hart Mountain	.22
Pennsylvania	29.4	+1.0	2 stations	67	124	2 stations	-18	19	Johnstown	4.00	Milroy	.90
South Carolina	51.6	+4.1	do	87	124	Ceasars Head	6	13	Longcreek	10.51	Miley	3.19
South Dakota	18.2	-1.0	Marion	61	4	2 stations	-42	11	Centerville	1.92	Raymond	.05
Tennessee	46.4	+5.2	Elizabethton	82	28	Crossville	4	13	Waynesboro	15.64	Rogersville	5.35
Texas	54.4	+3.1	Mission	97	125	Follett	6	11	Jefferson	11.93	Fowlerton	.05
Utah	26.9	-3.0	St. George	67	16	Scipio	-23	11	Silver Lake (Brighton)	3.67	Callao	.10
Virginia	39.7	+2.5	Staunton	82	24	Burkes Garden	-2	13	Rose Hill	11.42	Woodstock	1.94
Washington	35.3	+1.2	Wahluke (near)	63	6	Stockdill Ranch	0	15	Highley Peak	11.40	Benton City	.21
West Virginia	37.3	+3.9	2 stations	79	126	Seneca State Forest	-13	13	Bluefield	7.38	Brandywine	1.55
Wisconsin	21.5	+4.3	Kenosha	56	26	Mellen	-25	18	Brodhead	3.27	Antigo	.36
Wyoming	21.6	-6	Ft. Laramie	66	26	Moran	-28	20	Grassy Lake Dam	5.60	Nine Mile Creek	.03
Alaska (January)	8.5	+5.9	Tree Point	53	20	Allakaket	-60	30	View Cove	31.96	Kotzebue	.17
Hawaii	68.8	+2	2 stations	89	15	Haleakala R. S.	32	22	2 stations	28.40	Ukumehame	1.44
Puerto Rico	72.6	.0	Ponce	92	6	Guineo Reservoir	44	29	La Mina (El Yunque)	7.42	Santa Isabel	.14

† Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS

District and station	Elevation of instruments			Pressure			Temperature of the air										Mean temperature of the dew-point	Precipitation			Wind				Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Mean max. + min. + 2	Departure from normal	Maximum	Date	Mean minimum	Minimum	Date	Mean minimum	Greatest daily range	Mean relative humidity		Total	Departure from normal	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS—Continued

District and station	Elevation of instruments			Pressure		Temperature of the air										Precipitation	Wind					Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms							
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Mean		Departure from normal	Maximum	Date	Mean	Minimum	Date	Mean		Greatest daily range	Mean temperature of the dew-point	Mean relative humidity	Total	Departure from normal							Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity		Date	Clear days
							max.	min.																							Miles per hour	Direction		
Ohio Valley and Tennessee																																		
Chattanooga ¹	762	6	66	29.28	30.11	-0.02	47.3	+5.1	76	26	57	14	13	37	39	40	82	11.03	+6.0	15	7.9	s.	35	nw.	22	5	3	21	7.8	1.5	5			
Knoxville ¹	995	27	53	29.04	30.12	-0.00	46.6	+5.7	75	26	56	12	13	37	40	38	77	9.38	+4.7	14	8.8	sw.	38	w.	29	4	8	17	7.2	9	0			
Memphis ¹	399	5	86	29.66	30.10	-0.01	48.5	+5.5	75	25	57	20	13	40	41	41	78	9.24	+4.7	15	8.7	e.	27	sw.	25	5	7	17	7.2	T	0			
Nashville ¹	546	5	72	29.51	30.10	-0.02	46.6	+5.0	74	26	55	13	13	38	32	38	76	7.14	+2.9	15	9.4	s.	28	nw.	11	4	6	19	7.7	T	0			
Lexington ¹	989	6		29.02	30.13	+0.02	40.6	+5.2	76	26	51	5	13	30	32			3.67	-1	13		s.	36	sw.	10	6	13	6.0	5.8	T	1			
Louisville ¹	525	106	120	29.53	30.10	-0.01	41.2	+3.9	72	26	48	11	12	34	24	31	72	3.34	-3	9	9.6	n.	36	sw.	5	7	10	12	6.7	2.0	T	0		
Evansville ¹	431	12	40	29.63	30.11	-0.00	39.2	+4.3	71	24	48	6	12	30	33	30	76	3.13	-2	9	9.2	nw.	29	sw.	22	4	8	15	6.9	3.0	0	2		
Indianapolis ¹	823	5	54	29.19	30.11	+0.01	33.0	+2.7	68	26	42	-8	13	24	33	26	81	2.82	-4	11	11.3	sw.	43	sw.	22	4	6	17	7.3	8.8	0	3		
Terre Haute ¹	575	68	149	29.48	30.12	+0.01	35.4	+3.3	70	22	44	-1	12	27	31	28	80	2.88	+2	10	10.0	n.	36	w.	22	4	9	16	7.1	11.0	T	1		
Cincinnati ¹	627	11	51	29.41	30.11	+0.01	37.9	+5.1	73	26	46	-4	13	30	29	29	75	4.26	+1.2	10	8.2	ne.	27	sw.	5	4	10	15	6.7	5.8	2.0	1		
Columbus ¹	822	90	110	29.19	30.10	+0.01	35.2	+4.5	70	26	43	-1	13	28	27	26	78	2.05	-7	10	10.2	s.	39	w.	23	6	5	18	7.3	8.8	0	1		
Vandalia ¹	1,003	6	55	28.99	30.09	+0.01	33.1	+3.2	69	26	41	-6	13	25	29	27	83	2.45	-3	10	11.9	nw.	47	w.	22	6	6	17	7.2	9.1	2.0	1		
Elkins ¹	1,947	61	78	27.98	30.10	-0.00	35.6	+4.0	66	26	47	7	13	24	37	27	80	4.26	+1.1	18	7.6	w.	30	w.	14	1	10	18	7.6	7.1	2.7	0		
Parkersburg ¹	637	77	84	29.39	30.10	-0.00	37.9	+3.7	74	26	48	8	13	28	32	28	70	3.18	-0	12	7.5	nw.	22	nw.	1	7	9	13	6.4	5.0	1.9	1		
Pittsburgh ¹	842	39	54	29.15	30.09	-0.00	32.3	+2.5	58	22	41	6	13	24	29	24	75	2.26	-4	15	11.5	w.	47	nw.	23	4	8	17	7.2	8.5	2.1	1		
Lower Lake Region																																		
Buffalo ¹	768	34	96	29.20	30.07	+0.01	25.1	+1.4	50	5	33	-5	19	17	31	19	78	2.02	-1	14	14.1	sw.	45	sw.	6	3	8	18	7.6	24.6	T	0		
Canton ¹	448	10	61	29.53	30.05	-0.00	18.0	+2.2	44	6	29	-20	8	7	42	12	78	2.98	-3	16	9.2	sw.	27	sw.	5	4	8	17	7.2	20.7	1.8	0		
Oswego ¹	335	71	85	29.67	30.06	-0.00	25.1	+1.2	49	5	32	3	8	18	33	17	71	2.26	-5	18	11.2	se.	32	nw.	1	3	9	17	7.3	19.2	1.7	0		
Rochester ¹	523	5	69	29.48	30.08	+0.02	24.0	+1.1	50	5	33	-7	19	15	37	18	82	2.91	+1	15	11.5	w.	49	w.	6	3	5	21	7.9	21.0	T	0		
Syracuse ¹	596	5	57	29.39	30.07	-0.00	24.5	+1.6	50	6	33	-2	19	16	42	19	84	2.55	-3	16	11.1	sw.	40	w.	6	4	6	19	7.6	18.6	T	0		
Erie ¹	714	57	81	29.28	30.09	+0.02	28.7	+1.8	53	5	35	-4	19	22	25	22	84	2.22	-4	12	9.3	w.	27	se.	26	2	9	18	7.6	12.5	T	1		
Cleveland ¹	762	27	54	29.25	30.11	+0.04	29.5	+3.2	68	26	38	0	13	21	30	24	82	1.66	-9	13	11.2	s.	49	sw.	23	5	7	17	7.3	14.2	T	1		
Sandusky ¹	629	5	67	29.39	30.10	+0.03	31.2	+3.8	72	26	38	1	13	24	33			1.62	-6	10	10.0	sw.	34	sw.	23	7	6	16		8.2	0	1		
Toledo ¹	628	5	47	29.38	30.10	+0.03	28.2	+2.2	71	26	37	-4	13	30	33	23	81	1.22	-9	10	12.0	sw.	39	w.	5	9	6	14	6.0	7.0	T	1		
Fort Wayne ¹	857	5	33	29.14	30.09	+0.03	28.8	+2.2	66	26	37	-8	13	30	31	22	77	2.15	-3	8	9.3	sw.	38	w.	22	5	8	16	7.1	10.2	0	0		
Detroit ¹	730	5	78	29.27	30.09	+0.03	28.6	+3.8	68	26	35	6	13	22	32	22	77	1.82	-4	9	10.3	sw.	38	w.	5	4	8	17	7.3	11.1	T	1		
Upper Lake Region																																		
Alpens ¹	609	5	89	29.35	30.06	+0.03	23.2	+5.2	41	21	30	1	18	16	31	18	79	1.26	-5	11	11.3	nw.	29	nw.	15	3	8	18	7.4	9.0	0	0		
Escanaba ¹	612	51	72	29.37	30.07	+0.01	21.0	+5.4	40	24	28	1	13	13	28	16	76	1.75	-8	9	11.3	nw.	33	n.	5	5	10	14	6.7	3.2	T	0		
Grand Rapids ¹	707	70	244	29.29	30.08	+0.03	28.4	+4.7	65	26	35	8	12	22	30	22	84	1.81	-5	10	11.9	sw.	48	sw.	26	3	11	15	7.3	8.8	T	0		
LaSalle ¹	878	5	90	29.10	30.09	+0.02	25.4	+2.3	61	26	32	-4	19	18	30	21	82	2.15	+2	13	9.0	sw.	26	sw.	5	5	7	17	7.0	15.4	T	2		
Ludington ¹	637	60	66																															
Marquette ¹	734	44	73	29.22	30.06	+0.01	21.4	+5.0	39	21	28	2	16	15	29	14	76	1.90	-1	15	9.3	nw.	31	sw.	13	4	7	18	7.4	16.1	2.5	0		
Sault Sainte Marie ¹	614	11	52	29.34	30.05	+0.02	16.9	+5.5	38	21	26	-1	2	18	8	33	12	82	1.03	-4	15	1.1	nw.	36	sw.	23	4	6	19	7.5	8.3	4.3	0	
Chicago ¹	673	5	36	29.34	30.10	+0.02	29.0	+3.8	62	26	37	-5	13	21	30	23	81	1.70	-4	10	10.5	s.	38	w.	5	5	8	16	7.2	12.5	T	1		
Green Bay ¹	617	109	141	29.38	30.08	+0.02	23.0	+5.6	43	4	31	0	18	15	34	16	74	1.02	-6	9	10.6	s.	26	n.	5	6	7	16	6.8	5.8	T	0		
Milwaukee ¹	681	33	66	29.32	30.09	+0.03	25.5	+4.2	52	26	33	-4	13	18	34	18	76	1.69	-2	11	12.7	sw.	41	w.	5	6	5	18	7.0	9.3	0	1		
Duluth ¹	1,133	5	47	28.81	30.10	+0.02	14.4	+3.0	44	21	28	-15	11	4	30	6	83	1.82	-3	5	12.6	nw.	31	w.	23	10	9	10	5.6	8.7	5.7	0		
North Dakota																																		
Fargo ¹	940	5	43	29.06	30.13	+0.02	11.8	+3.7	40	25	23	-22	12	0	41	6	76	1.16	-6	5	11.6	n.	31	n.	17	6	11	12	5.9	1.9	0	0		
Bismarck ¹	1,677	5	43	28.25	30.14	+0.02	10.4	+1.9	35	20	23	-34	11	-2	49	6	84	1.36	-1	9	8.5	e.	26	nw.	8	8	8	13	6.1	5.8	2.6	0		
Devils Lake ¹	1,478	11	44	28.46	30.14	+0.03	9.2	+4.1	33	28	20	-26	11	-1	37	6	88	1.12	-4	6	8.4	sw.	25	nw.	19	8	10	11	6.0	1.5	T	0		
Lemmon, S. Dak. ¹	2,002	4	38	27.24	30.09	+0.02	13.6	-2.3	45	6	24	-27	11	3	46	11	88	1.41	-5	3		nw.				11	3	15		5.5	6.5	0	0	
Grand Forks ¹	832	4	41	29.19	30.14	+0.03	9.6		36	20	21	-2	11	-2	46	5	14			6		n.				9	10	10		4.0	T	0		
Williston ¹	1,878	42	50	28.00	30.06	-0.05	16.0	+7.9	47	2	27	-27	11	5	46	11	78	1.54	+1	10	6.5	sw.	21	n.	14	9	5	15	6.0	5.8	1.3	0		
Upper Mississippi Valley																																		
Minneapolis-St. Paul, Minn. ¹	919	43	74	29.05	30.09	-0.00	20.6	+4.7	45	2	30	-14	12	11	32	14	78	1.10	+1	7	10.3	nw.	30	w.	23	7	14	8	5.6	4.2	T	0		
Springfield, Minn. ¹	1,025	4	42	28.95	30.10	-0.01	20.9		50	21	31	-15	12	11	36	15	79	1.65		5		nw.												

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS—Continued

[illegible]

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS—Continued

District and station	Elevation of instruments			Pressure			Temperature of the air										Precipitation				Wind				Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Mean max. + min. + 2	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Mean temperature of the dew-point	Mean relative humidity	Total	Departure from normal	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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LATE REPORTS FOR JANUARY 1944

Alaska																																	
Bethel	28	7	31	29.33	29.37		6	-6.2	36	8	9	-44	28	-8	38	0	87	39	-5	11	10.0	ne.				7	8	16	6.8	4.7	16.5	0	
Gambell	32	5	32	29.58	29.61		-2.4	-4.8	21	9	2	-23	25	-7	18	-4	90	58	-2	14	21.0					8	5	18	6.0	5.8	10.2	0	
Ketchikan	75	69	90	29.72	29.74		39.6	+6.0	51	10	44	27	2	36	14	35	82	18.89	+4.9	29	9.2	se.	30	se.	11	1	1	29	9.4	5.6	0	0	
Kotzebue	20	5	31	29.57	29.59		-8.6	0	27	8	-1	-43	30	-16	26	-11	86	14	-4	4		ne.				8	10	13	6.0	1.9	8.2	0	
McGrath	331	5	31	29.09	29.49		-8.5		36	8	2	-52	29	-19	44	-9	87	32	-6	11		w.	18	ssw.	9	6	4	21	7.4	8.9	38.5	0	
Northway	1,718	5	32	27.67	29.62		-9.9		16	10	-2	-44	29	-18	28	-10	90	26		7	8.8	se.	30			23	4	5	22	7.5	2.6	10.2	0

¹ Data are airport records.

² Barometric data (adjusted to old city elevation) and hygrometric data from airport; otherwise city office records.

³ Observations taken bihourly.

⁴ Pressure (adjusted to old city elevation) temperature and hygrometric data from airport; otherwise city office records.

⁵ Temperature and precipitation from city office records, other data from airport.

NOTE.—Except as indicated by notes 1, 2, 4, and 5 data in table are city office records

SEVERE LOCAL STORMS, FEBRUARY 1944

(Compiled by Mary O. Souder)

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Hugo, Okla.....	3	7:30 p. m.	100	0	\$100,000—\$200,000	Tornado.....	\$35,000 damage to the buildings of the Goodland Indian School; 109 homes and business houses slightly damaged or totally demolished. Unestimated damage to shade trees and timber.
Barnesville, Ga.....	9	a. m.		0	20,000	do.....	3 houses demolished and considerable damage to buildings, trees, and communication lines.
South Dakota.....	9-10					Blowing snow.....	High, gusty wind, near zero temperatures and blowing snow hampered motor traffic in all sections. Numerous schools closed because of blocked highways.
Nebraska, entire State.....	10					Snow and wind.....	Stockmen and travelers appear to have been well-prepared for the storm, keeping losses at a minimum. Amount of damage not estimated.
Howell, Mich.....	22	p. m.				Electrical.....	Much damage to windows and electrical installations.
San Marcos, Tex.....	24	5 p. m.	13		5,000	Hail.....	Damage to buildings and gardens.
Abilene, Tex.....	24	6 p. m.				do.....	Roofs of school and farm buildings damaged; estimate not given.
Hondo, Tex.....	24	10-11 p. m.	880		2,000	do.....	Buildings damaged; loss in oats.
Cedar Bluffs, Nebr.....	25	5:10 p. m. (Central War Time)	440		1,800	Tornado wind, rain and hail.	Small buildings blown over or damaged. Cloud started as a funnel, but seemed to break with other clouds forming. From the debris it was seen that wind blew in 2 directions; length of storm, 2 miles.
Nebraska, northwest and north-central portions.	25	p. m.		1		Snow and wind.....	Strong wind with light to heavy snow in northwestern Nebraska with very heavy snow and strong winds in north-central portion. Woman died from exposure.
Cherokee, Forsyth, and Dawson Counties, Ga.	25			0	30,000	Tornado.....	Many small buildings destroyed including a 6,800-chicken hatchery; 15 homes damaged.
Emhouse, Tex.....	28	3:30 a. m.	1 1/4-3		15,000	Straight-line wind.....	Damage to buildings; loss in unpicked cotton.

¹ Miles instead of yards.

SOLAR RADIATION AND SUNSPOT DATA FOR FEBRUARY 1944

[Solar Radiation Investigations Section, I. F. HAND in charge]

SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations, and methods of observation, and to summaries of data, are given in the January 1942 REVIEW, page 20; a list of pyrheliometric stations is also given in the REVIEW for January 1943, page 12, and in January 1944, page 45.

TABLE 1.—Solar radiation intensities during February 1944

[Gram-calories per minute per square centimeter of normal surface]

Madison, Wis.

Date	Sun's zenith distance										Local mean solar time	
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°		1:30 p. m.
	75th mer. time	Air mass										
		A. M.					P. M.					
		e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0		5.0
Feb. 1	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.	
Feb. 3	2.34	1.03	1.10	1.06	1.04	1.11	0.74				2.24	
Feb. 9	5.50	.47	.57	.69	1.04	1.11	0.74				6.64	
Feb. 12	1.66	.99	1.11	1.21	1.37	1.54	1.39				1.73	
Feb. 15	.98	.84	1.03	1.13	1.35	1.57	1.39				1.40	
Feb. 18	1.73			1.16	1.31	1.53	1.30				2.03	
Feb. 19	1.08	1.01	1.11	1.21	1.40	1.57	1.39				1.40	
Feb. 21	1.08	.87	.98	1.04	1.14	1.20					2.24	
Feb. 24	2.88	.76	1.04	1.08	1.14	1.20					4.84	
Feb. 24	3.66	.41	.66	.94	1.24	1.52	1.22				3.83	
Means		.80	.95	1.06	1.26	1.49	1.28	(.74)				
Departures		-.09	-.08	-.11	-.08	-.05	-.04	-.42				

TABLE 1.—Solar radiation intensities during February 1944—Con.

Lincoln, Nebr.

Date	Sun's zenith distance											
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.	
	75th mer. time	Air mass										Local mean solar time
		A. M.					P. M.					
		e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	
Feb. 2	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.	
Feb. 3	3.49	1.16	1.22	1.22	1.31	1.16	1.16	1.16	1.03	-----	5.83	
Feb. 5	4.40	1.05	1.16	1.18	1.36	-----	1.34	1.16	1.03	-----	5.32	
Feb. 11	4.18	.77	.94	1.13	1.31	-----	-----	-----	-----	-----	2.34	
Feb. 16	.92	-----	-----	1.13	1.35	1.58	1.37	1.24	1.07	0.97	0.75	
Feb. 19	2.71	-----	-----	-----	-----	1.45	1.27	1.11	.94	.81	3.66	
Feb. 22	2.03	-----	-----	1.02	1.22	1.38	1.22	1.03	.88	.77	3.49	
Feb. 24	6.28	-----	-----	.75	1.16	1.38	1.29	1.14	-----	-----	5.32	
Feb. 29	4.40	-----	-----	.75	1.16	1.38	1.16	.96	.77	.62	6.36	
Feb. 29	3.66	-----	.57	.72	.94	1.23	1.05	-----	-----	-----	4.64	
Means	-----	0.99	.97	1.02	1.24	1.40	1.23	1.11	.94	.79	-----	
Departures	-----	+.08	-.05	-.14	-.11	-.11	-.11	-.11	-.07	-.12	-----	

Albuquerque, N. Mex.

											7:30 p. m.
Feb. 1	7.15			1.10	1.16		1.28	0.94			6.60
Feb. 2	5.32	0.98	1.07			1.35	1.21				5.08
Feb. 3	4.00	1.25	1.15	1.22							5.08
Feb. 7	5.32						1.27				5.08
Feb. 8	5.83	.92		1.06	1.33		1.38				4.60
Feb. 9	5.56	.91	1.04	1.12							3.32
Feb. 11	2.61	1.06	1.15	1.25	1.41						2.88
Feb. 12	3.32						1.34	1.08			3.65
Feb. 13	3.83						1.34				2.51
Feb. 17	3.49						1.31				3.83
Feb. 19	3.32	.94	1.04	1.13	1.22			.91			7.72
Feb. 24	3.83		1.16	1.19	1.32						7.15
Feb. 29	4.40	1.01	1.11	1.21	1.38	1.41	1.25	0.97			5.56
Means		1.01	1.10	1.16	1.30	1.34	1.08	(.97)			
Departures		-.03	-.03	-.05	-.06	-.04	-.11	-.18			

*Extrapolated.

TABLE 2.—Daily totals and weekly means of solar radiation (direct+diffuse) received on a horizontal surface
[Gram-calories per square centimeter]

	Wash- ington, D. C.	Mad- ison, Wis.	Lin- coln, Nebr.	East Lans- ing, Mich.	New York, N. Y.	Fresno, Calif.	Colum- bia, Mo.	Boston, Mass.	Nash- ville, Tenn.	Twin Falls, Idaho	La Jolla, Calif.	New Or- leans, La.	River- side, Calif.	Blue Hill, Mass.	Los An- geles, Calif.	Ithaca, N. Y.	New- port, R. I.	State Col- lege, Pa.	Put-in- Bay, Ohio	East Ware- ham, Mass.	Davis, Calif.
	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
January 29.....	164	275	250	29	62	132	139	158	197	316	142	208	175	214	35	232	26	44	165	48	
January 30.....	263	216	244	108	276	258	222	259	267	286	421	162	255	96	253	280	241	248	284	148	
January 31.....	130	166	304	51	118	263	192	231	268	266	428	188	242	206	44	227	58	47	251	208	
February 1.....	277	261	43	256	303	268	265	144	297	277	331	464	169	204	242	168	240	310	303	187	
February 2.....	92	133	335	79	199	280	28	243	95	184	347	317	305	337	216	275	154	76	307	10	
February 3.....	112	261	328	42	226	58	333	237	217	78	179	122	255	75	57	311	41	56	297	78	
February 4.....	139	241	239	91	204	143	318	223	305	225	494	260	293	308	217	210	137	230	291	268	
Mean.....	168	222	219	94	198	210	216	200	221	235	300	354	234	217	211	112	214	138	144	214	123
Departure.....	-33	+38	+33	-38	+25	+17	-----	-----	+37	+13	+18	+96	-32	+32	-----	-19	+39	+17	+1	+64	-72
February 5.....	216	61	272	71	142	194	227	127	292	91	368	-----	345	193	380	56	283	212	130	218	322
February 6.....	146	296	330	228	241	242	284	200	327	168	324	-----	344	225	358	141	153	261	259	162	309
February 7.....	238	251	288	105	82	305	313	155	277	119	359	-----	322	256	317	51	204	70	31	261	231
February 8.....	305	134	122	199	305	167	73	258	43	157	129	-----	70	356	95	264	335	305	233	310	245
February 9.....	73	296	83	194	85	259	347	109	351	140	358	-----	387	254	411	96	164	264	273	184	364
February 10.....	251	101	164	54	289	368	24	228	90	322	393	-----	412	323	391	255	327	325	76	340	379
February 11.....	20	231	424	158	38	369	336	25	26	124	403	-----	395	55	396	64	41	31	66	66	375
Mean.....	193	196	211	144	169	272	229	157	231	160	334	-----	325	237	336	132	215	210	152	221	318
Departure.....	-19	-5	-10	-25	-4	+18	-----	-----	+9	-37	+10	-----	+38	+16	-----	-37	+5	+79	-25	-6	+37
February 12.....	324	349	373	281	216	321	370	92	337	220	385	-----	402	119	369	154	143	188	315	114	395
February 13.....	358	206	202	235	338	383	174	316	337	257	406	-----	387	385	373	320	373	322	378	371	375
February 14.....	64	174	296	91	121	249	234	178	21	202	320	-----	308	279	325	-----	266	115	75	249	334
February 15.....	335	345	168	259	284	368	215	236	339	207	366	-----	425	254	423	-----	257	111	287	297	407
February 16.....	217	201	334	184	154	399	250	173	260	146	407	-----	417	208	392	-----	212	230	227	228	364
February 17.....	37	86	389	122	83	375	73	228	27	257	-----	-----	175	267	352	-----	182	79	134	160	409
February 18.....	232	386	326	206	148	399	364	276	88	332	416	-----	424	261	408	-----	316	228	350	320	377
Mean.....	221	210	218	197	192	356	210	214	231	211	383	-----	362	273	373	-----	210	182	212	248	380
Departure.....	-5	+24	+37	-28	-5	+63	-----	-----	-7	-30	+61	-----	+49	+9	-----	-----	-14	+26	+12	-11	+59
February 19.....	372	325	401	334	347	159	348	341	248	377	372	-----	314	414	177	-----	407	372	391	427	89
February 20.....	85	226	383	216	121	83	300	259	119	389	111	-----	72	326	27	-----	285	250	324	329	260
February 21.....	318	302	67	289	314	54	91	292	180	213	351	-----	213	382	58	-----	343	320	334	360	210
February 22.....	21	21	347	31	42	235	367	62	89	184	174	-----	36	98	57	-----	94	34	49	116	155
February 23.....	397	186	411	177	276	423	325	82	399	357	180	-----	188	120	260	-----	140	184	139	100	342
February 24.....	357	386	398	333	270	358	400	287	253	318	216	-----	176	339	393	-----	340	324	392	326	435
February 25.....	334	71	194	77	347	416	126	334	78	190	225	-----	342	427	317	-----	404	351	149	421	369
Mean.....	269	217	314	208	245	247	280	237	195	290	233	-----	192	301	184	-----	282	262	254	297	266
Departure.....	+4	-37	+28	-48	+16	-7	-----	-----	-40	+32	-105	-----	+108	+27	-----	-----	+16	+69	-9	+5	-24

ACCUMULATED DEPARTURES ON FEBRUARY 25, 1944

-175	+147	+1120	-1505	+238	+1623	-----	-----	-7	+343	-406	-----	-952	+693	-----	-----	-49	+1932	+315	+371	+42
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POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR
FEBRUARY 1944

Communicated by Capt. J. F. Hellweg, U. S. N. (Ret.), Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day, under longitude, latitude, area of spot or group, and spot count, are included assumed longitude of center of the disk, assumed latitude of center of the disk, total area of spots and groups and total spot count.

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- fer- ence in longi- tude	Lon- gi- tude	Lat- itude	Dis- tance from cen- ter of disk				
1944	h m		°	°	°	°				
Feb. 1	10 55	7634	+55	334	+10	59	16	1	G	Mt. Wilson.
Feb. 2	13 15			(279) (-6)			16	1	P	U. S. Naval.
Feb. 3	13 2			No spots					F	Do.
Feb. 4	10 34			No spots					G	Do.
Feb. 5	11 10			No spots					F	Do.
Feb. 6	13 38			No spots					F	Do.
Feb. 7	10 9			No spots					F	Do.
Feb. 8	10 33			No spots					F	Do.
Feb. 9				No spots						Mt. Wilson.
Feb. 10	10 47			No spots					G	U. S. Naval.
Feb. 11				No spots						Mt. Wilson.
Feb. 12	10 36			No spots					G	U. S. Naval.
Feb. 13	11 7			No spots					G	Do.
Feb. 14				No spots						Mt. Wilson.
Feb. 15	10 30			No spots					G	U. S. Naval.
Feb. 16	10 49			No spots					F	Do.
Feb. 18	10 36			No spots					VG	Do.
Feb. 19	10 39			No spots					P	Do.
Feb. 21	10 41			No spots					VG	Do.
Feb. 23	10 32			No spots					G	Do.
Feb. 24	11 2			No spots					G	Do.

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- fer- ence in longi- tude	Lon- gi- tude	Lat- itude	Dis- tance from cen- ter of disk				
1944	h m		°	°	°	°				
Feb. 25	10 45			No spots					G	U. S. Naval.
Feb. 27	15 33			No spots					F	Do.
Feb. 28	10 30			No spots					F	Do.
Feb. 29				No spots						Mt. Wilson.

Mean daily area for 25 days=1.

VG=very good; G=good; F=fair; P=poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR
JANUARY 1944

[Based on observations at Zurich (or Locarno as indicated by asterisk). Data furnished through the courtesy of Prof. W. Brunner, Swiss Federal Observatory, Zurich, Switzerland]

January 1944	Relative numbers	January 1944	Relative numbers	January 1944	Relative numbers
1	7	11	*0	21	0
2	*0	12	*0	22	d 8
3	0	13	0	23	8
4	0	14	0	24	8
5	0	15	0	25	8
6	0	16	0	26	8
7	0	17	*0	27	13
8	0	18	*0	28	18
9	*0	19	*0	29	19
10	*0	20	0	30	9
				31	8

Mean, 31 days=3.7

*=Observed at Arosa or Locarno.

d=Entrance of a large or average-sized center of activity on the east limb.

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Chart I. Departure ($^{\circ}\text{F.}$) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, February 1944

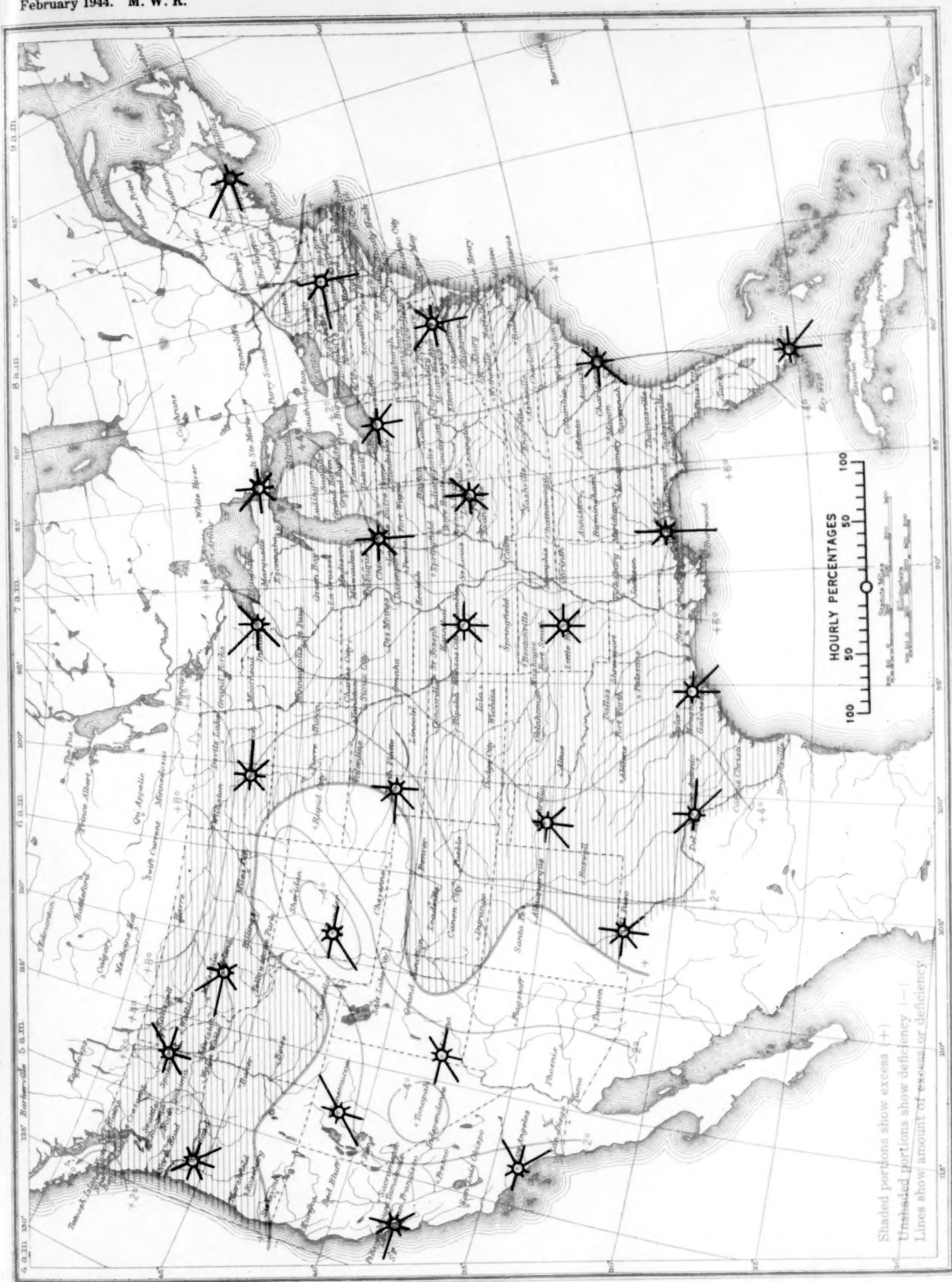
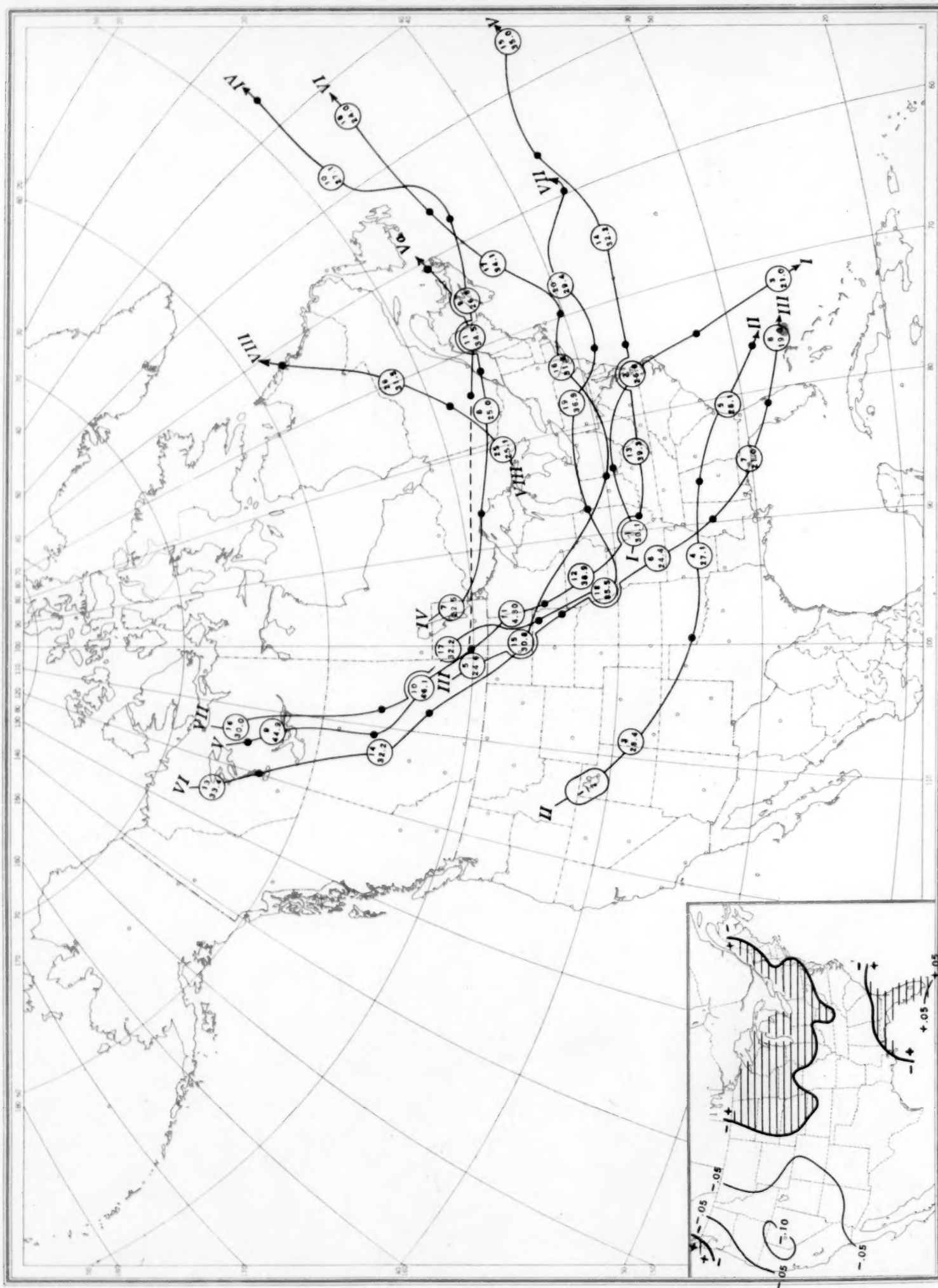


Chart II. Tracks of Centers of Anticyclones, February 1944. (Inset) Departure of Monthly Mean Pressure from Normal
(Plotted by A. Bloom)

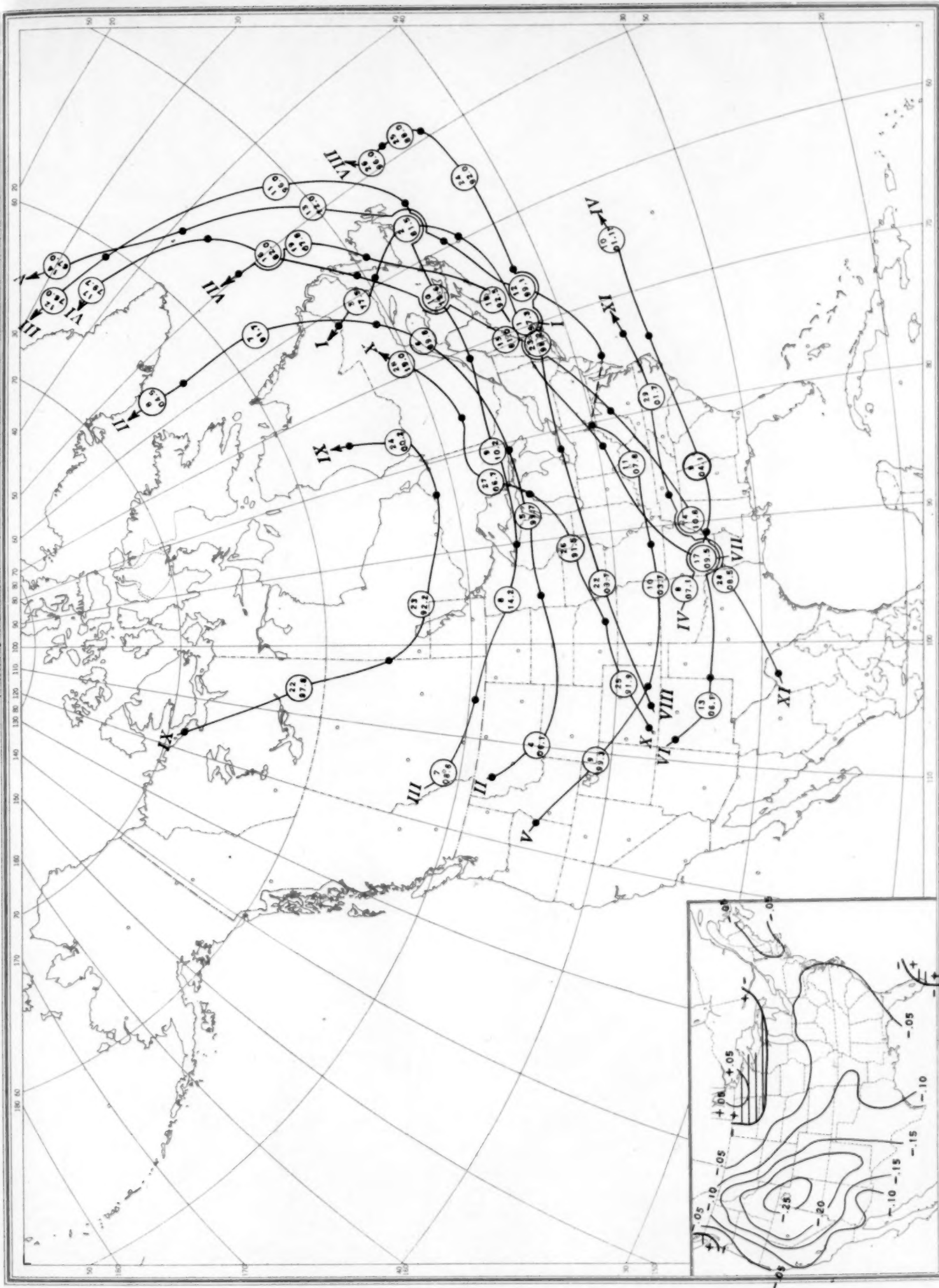


Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (75th meridian time)

Chart III. Tracks of Centers of Cyclones, February 1944. (Inset) Change in Mean Pressure from Preceding Month

Chart III. Tracks of Centers of Cyclones, February 1944. (Inset) Change in Mean Pressure from Preceding Month

(Plotted by A. Bloom)



Circle indicates position of cyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (75th meridian time).

Chart V. Total Precipitation, Inches, February 1944. (Inset) Departure of Precipitation from Normal

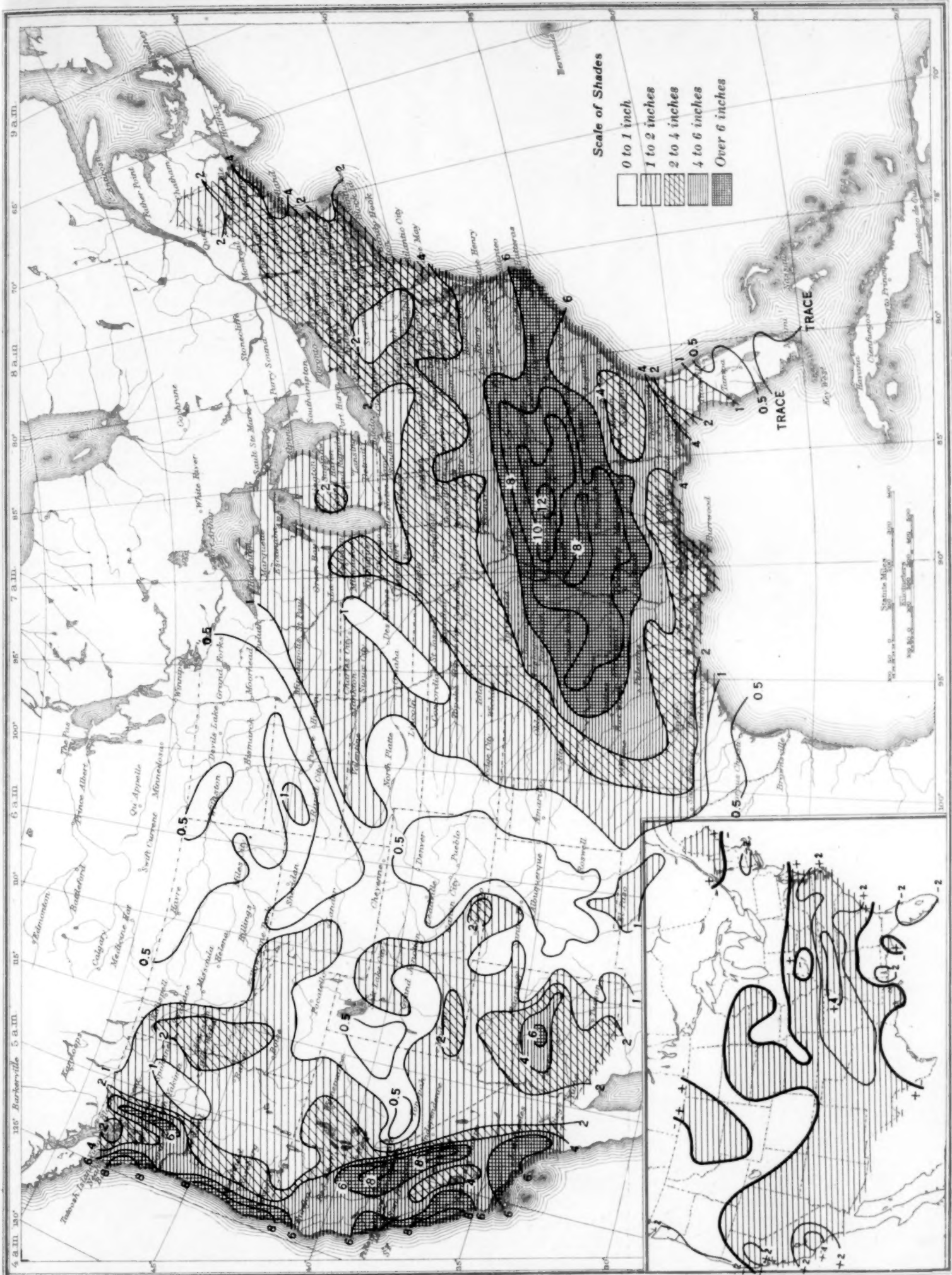


Chart VI. Isobars at Sea Level and Isotherms at Surface; Prevailing Winds, February 1944



Chart VII. Total Snowfall, Inches, February 1944. (Inset) Depth of Snow on the Ground at 7:30 p. m., Monday, February 28, 1944

